

5        said transmitter units each comprising infrared transmission means and  
programmable microprocessor means remotely separated from said central data  
processing means such that each said receiver unit has the capability to store  
multiple said unique identity data streams received from multiple said transmitter  
units and can communicate said identity data streams to said central data processing  
means.

73. The system of claim 72, where each said unique identity data  
stream comprises a stream of digitally pulsed infrared radiation consisting of 16  
data bits framed by a pair of start bits and a stop bit.

74. The system of claim 72, where each said transmitter unit transmits  
said identity data stream in a unique non-standard periodic pattern, such that no two  
said transmitter units transmit with identical periodic patterns.

75. The system of claim 72, where said transmitter units transmit both  
vertically and horizontally.

76. The system of claim 72, where said transmitter unit  
microprocessor means is programmed to one of 65,535 possible said unique identity  
data streams.

77. The system of claim 72, where said receiver unit microprocessor  
means test each received said identity data stream for validity.

78. The system of claim 72, further comprising a number of slave receiver units connected to individual said receiver units, said slave units comprising infrared receiving means and means to communicate received said identity data streams from said transmitter units to said receiver units, said slave receiver unit having no individual microprocessor means.

79. The system of claim 72 where each said transmitter unit repeatedly transmits said identity data stream in a unique non-standard periodic pattern consisting of three transmissions with different time intervals between each of said three transmission in said pattern, and where no two said transmitter units have identical time intervals between said three transmissions.

80. The system of claim 72, where each said transmitter unit repeatedly transmits said identity data stream once during successive predetermined time periods, with the time interval between each two successive transmissions differing from the time interval between the previous two successive transmissions.

81. The system of claim 72, where at least one said individual remote receiver unit is in communication with one or more slave receiver units, said slave receiver units having no individual microprocessor means and comprising infrared receiving means to receive said identity data streams from said transmitter units and

means to communicate received said identity data streams to said at least one said individual remote receiver unit.

82. A locator system comprising a number of individual portable transmitter units, a number of stationary individual remote receiver units, and a central data processing means;

5       said transmitter units each comprising infrared transmission means and programmable microprocessor means such that a unique identity data stream is transmitted by each transmitter unit;

10      said individual remote receiver units each comprising a single infrared receiving means and a single programmable microprocessor means, such that the total number of said programmable microprocessor means is equal to the total number of said individual remote receiver units in said locator system, such that each said individual remote receiver unit has the capability to store multiple said unique identity data streams received from multiple said transmitter units and can communicate said identity data streams to said central data processing means.

83. The system of claim 82, where said unique identity data stream comprises a stream of digitally pulsed infrared radiation consisting of 16 data bits framed by a pair of start bits and a stop bit.

84. The system of claim 82, where each said transmitter unit transmits said identity data stream in a unique non-standard periodic pattern, such that no two said transmitter units transmit with identical periodic patterns.

85. The system of claim 82, where said transmitter units transmit both vertically and horizontally.

86. The system of claim 82, where said transmitter unit microprocessor means is programmed to one of 65,535 possible said unique identity data streams.

87. The system of claim 82, where said receiver unit microprocessor means test each received said identity data stream for validity.

88. The system of claim 82, further comprising a number of slave receiver units connected to individual said receiver units, said slave units comprising infrared receiving means and means to communicate received said identity data streams from said transmitter units to said receiver units, said slave receiver units having no individual microprocessor means.

89. The system of claim 82, where each said transmitter unit repeatedly transmits said identity data stream in a unique non-standard periodic pattern consisting of three transmissions with different time intervals between each

of said three transmissions in said pattern, and where no two said transmitter units have identical time intervals between said three transmissions.

90. The system of claim 82, where each said transmitter unit repeatedly transmits said identity data stream once during successive predetermined time periods, with the time interval between each two successive transmissions differing from the time interval between the previous two successive transmissions.

91. The system of claim 82, where at least one said individual remote receiver unit is in communication with one or more slave receiver units, said slave receiver units having no individual microprocessor means and comprising infrared receiving means to receive said identity data streams from said transmitter units and means to communicate received said identity data streams to said at least one said individual remote receiver unit.

92. A locator system comprising a number of individual portable transmitter units, a number of stationary individual remote receiver units, and a central data processing means;

5                   said transmitter units each comprising infrared transmission means and programmable microprocessor means such that a unique identity data stream is transmitted by each transmitter unit;

10        said individual remote receiver units each comprising a paired single infrared receiving means and single programmable microprocessor means, said single programmable microprocessor means being in communication with only one said individual remote receiver unit, such that each said individual remote receiver unit has the capability to store multiple said unique identity data streams received from multiple said transmitter units and can communicate said identity data streams to said central data processing means.

93. The system of claim 92, where said unique identity data stream comprises a stream of digitally pulsed infrared radiation consisting of 16 data bits framed by a pair of start bits and a stop bit.

94. The system of claim 92, where each said transmitter unit transmits said identity data stream in a unique non-standard periodic pattern, such that no two said transmitter units transmit with identical periodic patterns.

95. The system of claim 92, where said transmitter units transmit both vertically and horizontally.

96. The system of claim 92, where said transmitter unit microprocessor means is programmed to one of 65,535 possible said unique identity data streams.

97. The system of claim 92, where said receiver unit microprocessor means test each received said identity data stream for validity.

98. The system of claim 92, further comprising a number of slave receiver units connected to individual said receiver units, said slave units comprising infrared receiving means and means to communicate received said identity data streams from said transmitter units to said receiver units, said slave receiver units having no individual microprocessor means.

99. The system of claim 92, where each said transmitter unit repeatedly transmits said identity data stream in a unique non-standard periodic pattern consisting of three transmissions with different time intervals between each of said three transmissions in said pattern, and where no two said transmitter units have identical time intervals between said three transmissions.

100. The system of claim 92, where each said transmitter unit repeatedly transmits said identity data stream once during successive predetermined time periods, with the time interval between each two successive transmissions differing from the time interval between the previous two successive transmissions.

101. The system of claim 92, where at least one said individual remote receiver unit is in communication with one or more slave receiver units, said slave receiver units having no individual microprocessor means and comprising infrared